

Amendments to the Drawings:

The attached replacement drawing sheets make changes to Figs. 1-4(B) and replaces the original sheets with Figs. 1-4(B).

Attachment: Replacement Sheets

REMARKS

Claims 1-4 are pending. By this Amendment, Figs. 1-4(B) have been amended to add the legend "Prior Art."

Figs. 1-4 were objected to. By this Amendment, the legend "Prior Art" has been added. It is respectfully requested that the objection be withdrawn.

Claims 1-4 were rejected under 35 U.S.C. §103(a) over Applicants' Admitted Prior Art (AAPA) in view of Kessel, U.S. Patent No. 6,746,311. The rejection is respectfully traversed.

AAPA and Kessel fail to disclose or suggest an apparatus for polishing an optical disk with a buffer member provided between a polishing body and a polishing body holder, which is deformable within a range of 0.05 to 0.3 mm when pressed with a predetermined contact pressure required for polishing, as recited in claim 1.

AAPA discloses two conventional polishing apparatuses. In Fig. 3(A), a rigid flange 24 (buffer member) is used. By using a rigid flange 24, abrasive filings 27 embedded between the polishing body 20 and the optical disk 10 are strongly pressed against the optical disk 10, thus causing deep scratches on the reading surface of the optical disk 10 (page 2, line 19 - page 3, line 3 of Applicants' specification). Furthermore, the polishing body 20 floats up from the optical disk 10 due to the rigid flange 24 (page 3, lines 3-8). On the other hand, Fig. 4(A) discloses a soft backup member 21 (buffer member). By using a soft backup member 21, roundness develops toward the inner periphery of the optical disk 10 with an increase in depth whenever it is polished (page 3, lines 15-18). By using a soft backup member 21 with a large amount of deformation, roundness that is harmful to the reading of information recorded occurs (page 3, lines 18-21).

The buffer member of claim 1 overcomes the deficiencies of AAPA in that by using a buffer member that is deformable within a range of 0.05 to 0.3 mm when pressed with a

predetermined contact pressure required for polishing, the polished body is effectively polished (page 5, line 16 - page 6, line 6).

Kessel fails to overcome the deficiencies of AAPA. Kessel discloses a polishing pad 30 with a polishing sub-pad element 36 that includes at least one relatively high modulus rigid element and at least one lower modulus resilient element (col. 4, lines 51-56). Kessel fails to provide any disclosure as to the amount of deformation that the sub-pad element 36 creates or the amount of deformation that occurs between the polishing surface 32 and the work piece. Kessel fails to provide any such disclosure or suggestion because Kessel is directed to improving the replacement of, and not the deformation of, the polishing pad 30 (col. 2, lines 6-12).

Furthermore, by using a buffer member which is deformable within the range of 0.05 to 0.3 mm, unexpected results can occur relative to AAPA and Kessel. One of the main users of optical disk polishers are CD/DVD rental shops. In these shops, CD/DVDs are frequently scratched and should be repaired. Thus, in many cases, CD/DVDs are repeatedly polished. When a CD/DVD is repeatedly polished, unevenness with a one-time polishing operation is multiplied. As described at page 3, line 16 and Fig. 4(B) of Applicants' application, the unevenness is especially conspicuous at the outer periphery (or corner) of a disk. The graph (in the attached Appendix) shows the measurement results of a surface profile of a polished CD according to the optical disk polisher (ELM) of the Applicants' invention and according to a conventional polisher (other).

The Graph clearly shows the effect owing to the above point of Applicants' invention. The even surface of ELM assures the correct reading of the entire data stored in the optical disk from the innermost track to the outermost track. In the other CD, reading errors occur in the areas larger than 53 mm radius, and less than 26 mm radius due to mal-reflection on the rounded surface. In the case of a DVD, the specification requirement is more severe, and

reading errors may occur with the surface unevenness of about one fifth that of a CD, depending on the DVD-driver.

An example of a polished CD which has undergone 50-time polishing operations and has the thickness of 0.7 mm is shown in Photo 1 in the attached Appendix. As shown by the reflection, the surface is still quite even even after it is polished 50 times. The optical disk polisher of the Applicants' invention make it possible to polish a CD 50 times (10 times in the case of a DVD, because data is written at a shallower depth from the surface) without causing data reading problems. Photo 2 of the attached Appendix shows that the CD is polished to be so thin that it can be bent with a hand, though actually a CD cannot be polished to such a thickness because of the limitation of the data reading optical system.

The effect is also proved by the commercial success of the optical disk polisher according to Applicants' invention. The following Internet websites are advertisements of the optical disk polisher sold worldwide. The products of the assignee of the present patent application are sold with the trade names of "SOMMEG SMART", "SOMMEG SENIOR" and "SOMMEG MASTER" in Japan, and of "EcoSmart", "EcoJunior", "EcoSenior" and "ECO MASTER" in the US and Europe. "Elm-digitalia" is a joint venture established in Europe by the assignee ELM of the present application for the sole distribution of the optical disk polisher according to Applicants' invention.

http://www.plenty.co.jp/news/Sommeg.pdf	Japan
http://www.discchek.com/	USA
http://www.elmdigitalia.com/	Spain
http://www.elmdigitalia.com/fra/index.asp	France
http://www.elmdigitalia.com/rus/index.asp	Russia
http://www.ekimax.it/sito/index.php	Italy
http://www.ps.ty/	Germany

The following Internet website of LibraryJournal.com discloses a comparison report of various disk polishers.

<http://www.libraryjournal.com/article/CA412872.html>

In the article, the assignee's products according to Applicants' invention are referred to as RTI Eco-Junior and RTI EcoSenior, where RTI is the distributor of the product in the USA. In the CONCLUSION of the article, the reporter states that "Eco-Junior is the best overall choice for most libraries looking for a more-expensive, wet-method machine".

AAPA and Kessel thus fail to disclose or suggest all of the features cited in claims 1-4. It is respectfully requested that the rejection be withdrawn.

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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Attachment:

Replacement Sheets
Appendix

Date: January 27, 2006

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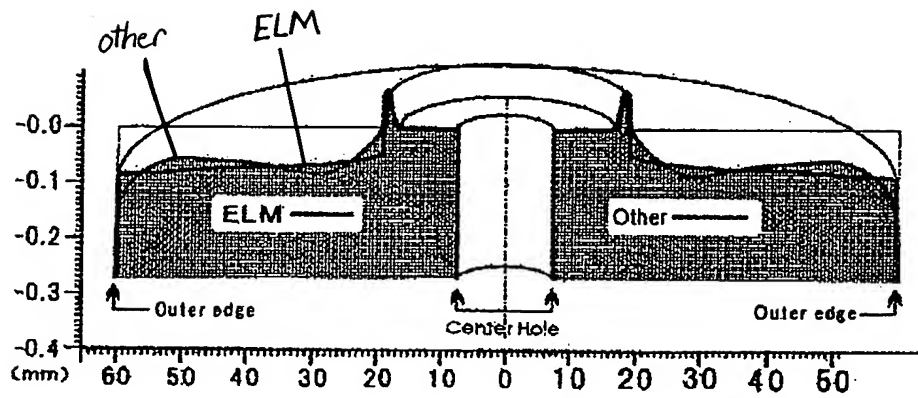
DEPOSIT ACCOUNT USE
AUTHORIZATION

Please grant any extension
necessary for entry;

Charge any fee due to our
Deposit Account No. 15-0461



APPENDIX



Graph



Photo 1

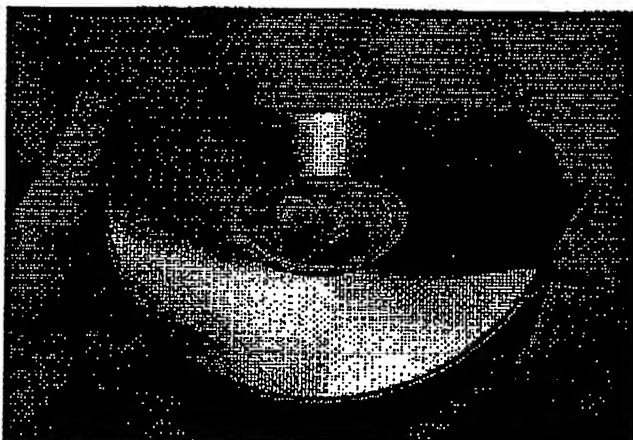


Photo 2

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